

JUN 23 2018



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D412-666-011
Job Sheet 179818



Part No: D412-666-011

Job Qty: 2 ea

Part Name: Gross Weight Towing Adapter



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 6/22/18

Job Tracking No:

Due Date: 7/17/18

Created By: Linda Lacelle

Type: SOLD

Description:

Note: DWG REV C1 IPP Rev:B Added GHG 002 NG 02-03-06 IPP Rev:C As per Rev C JLM 07-09-07 Verified By:EC

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier	
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time
90	Start up Operation	2 Ea	7/17/18	7/17/18	0.00	0.00	Start Up Stores/Pkg-2	
110	Packaging	2 pcs	7/17/18	7/17/18	0.00	0.00	Packaging1-4	
120	QC	2 pcs	7/17/18	7/17/18	0.00	0.00	QC4	
125	DC	2 pcs	7/17/18	7/17/18	0.00	0.00	DC	
130	Packaging	2 pcs	7/17/18	7/17/18	0.00	0.00	Packaging3-2	
140	QC21-FG	2 Ea	7/17/18	7/17/18	0.00	0.00	QC21	

Part Op 125 - Photocopy bluefile & type labels per PPP412-666-011 CHG 004
Descriptions: 130 - Identify and pack for shipping as per PPP D412-666-011 Location :FG023

JUL 10 2018 Sign-off

JUL 12 2018

JUL 12 2018

DAS 28

28 9-89

9-89

JUL 16 2018

DAS

53

9-89

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
AN6-15A	Bolt	8 Ea (4 ea)	90-Start up Operation	S076004
AN6-45A	Bolt	8 Ea (4 ea)	90-Start up Operation	F4132677x2 F41373210x
D2888	Lug	4 Ea (2 ea)	90-Start up Operation	F148156x1 S089824x3
MS21042L6	Nut	8 Ea (4 ea)	90-Start up Operation	S041168
NAS1149D0663J	Washer	16 Ea (8 ea)	90-Start up Operation	S043782

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	AN6-15A	8	49	0
	AN6-45A	8	17	0
	D2888	4	1	0
	MS21042L6	8	228	0
	NAS1149D0663J	16	719	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____ Date : _____	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: left; padding: 5px;">RTMENT/PROCESS</th> </tr> <tr> <td style="width: 60%; padding: 5px;"> Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ </td> <td style="width: 40%; padding: 5px;"> Engineering ☐ Quality ☐ Other ☐ </td> </tr> <tr> <td colspan="2" style="padding: 5px;"> MRB (QSI042) Approval </td> </tr> <tr> <td colspan="2" style="padding: 5px;"> Completed By </td> </tr> <tr> <td colspan="2" style="padding: 5px;"> Lead hand / Supervisor Approval Verification </td> </tr> <tr> <td colspan="2" style="padding: 5px;"> QC / QA Coordinator Approval </td> </tr> </table>	RTMENT/PROCESS		Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐	Engineering ☐ Quality ☐ Other ☐	MRB (QSI042) Approval		Completed By		Lead hand / Supervisor Approval Verification		QC / QA Coordinator Approval	
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QC / QA Coordinator Approval													

DART AEROSPACE

Container No: S091102

Part: D412-666-011

Job No: 179818

Serial No/Batch: S091102

Revision: _____

Inspector: _____

Exp Date: _____

Instructions: _____

Dart Aerospace Ltd.
 1270 Aberdeen Street
 Hawkesbury, ON K6A 1K7
 CANADA
 TEL: 1 613 632-6200
 Email: sales@dartaero.com
 www.dartaerospace.com

Date: 07/12/18

Root Cause	FAULT CATEGORY				
<table style="width: 100%;"> <tr> <td style="width: 50%;"> Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ </td> <td style="width: 50%;"> No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐ </td> </tr> </table>	Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	<table style="width: 100%;"> <tr> <td style="width: 50%;"> Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ </td> <td style="width: 50%;"> Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ </td> </tr> </table>	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐
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1.0 APPLICABILITY:

GROSS WEIGHT TOWING KIT D412-666-011 MAY BE INSTALLED ON DART D205-634-XXX OR D204-635-XXX OR D412-742-XXX SKIDTUBES INSTALLED ON 412 AIRCRAFT TO ALLOW GROUND HANDLING AT GROSS WEIGHT IN ACCORDANCE WITH BELL SERVICE INSTRUCTION BHT-412-SI-58. IT IS ALSO ACCEPTABLE TO INSTALL THIS KIT ON 204/205/210/212 AIRCRAFT EQUIPPED WITH DART SKIDTUBES IN ORDER TO PRESERVE THE LIFE OF THE AFT CROSSTUBES. THIS KIT CONTAINS ENOUGH PARTS TO INSTALL D2888 LUGS ON BOTH SKIDTUBES.

2.0 PARTS LIST:

QTY -011	PART	DESCRIPTION
X	D412-666-011	GROSS WEIGHT TOWING KIT
2	D2888	LUG
4	AN6-15A	BOLT
4	AN6-45A	BOLT
8	AN960JD616	WASHER
4	MS21042L6	NUT (or MS21042-6)

3.0 WEIGHT AND BALANCE:

INSTALLATION	WEIGHT	LONGITUDINAL	
		ARM	MOMENT
D412-666-011	1.90 lb 0.86 kg	163.0 in 4.14 m	310 in lb 3.56 m kg

4.0 PROCEDURE:

- 1) REMOVE AN6-12A BOLTS (4) ON INBOARD SIDE OF AFT SADDLE AND DISCARD. ON LANDING GEAR WITH DART AFT CROSSTUBES, REMOVE (4) AN6-40A BOLTS.
- 2) INSTALL D2888 LUGS WITH AN6-15A BOLTS (2) AS SHOWN IN FIGURE 1. USE AN6-45A (2) BOLTS ON DART CROSSTUBES, AS SHOWN IN FIGURE 2.
- 3) TORQUE BOLTS TO 95-110 in-lb (10.7-12.4 N-m).

5.0 NOTE:

IT IS ACCEPTABLE TO REPLACE THE AN6-15A/45A BOLTS WITH LONGER OR SHORTER AN6 BOLTS AS REQUIRED AND/OR INSTALL EXTRA AN960JD616 WASHERS UNDER NUT TO ENSURE 1.5 TO 4 THREADS IN SAFETY.

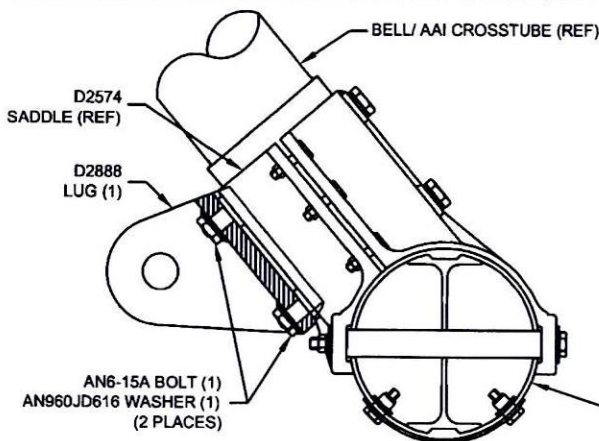


FIGURE 1
(BELL/AAI CROSSTUBES)

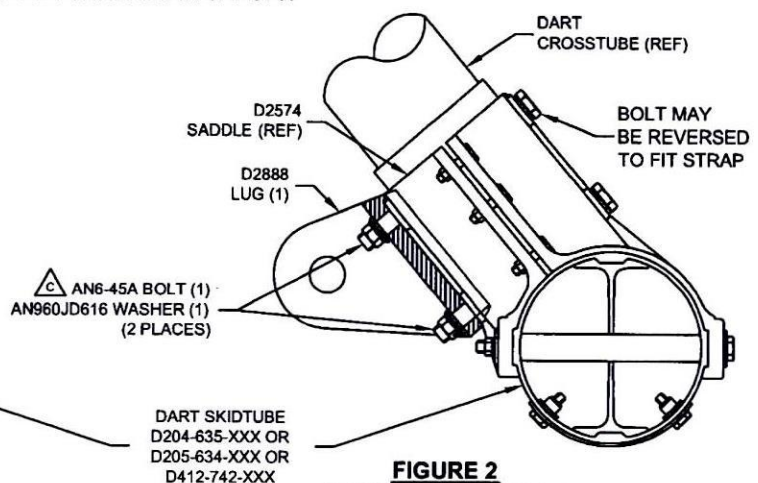


FIGURE 2
(DART CROSSTUBES)

C	- AN6-45A WAS AN6-43A, ADD NOTES - TO ENSURE COMPATIBILITY WITH D412-742-011/-013 - ESTIMATE (PARTS/PICK LIST) IS AFFECTED	MB	07.08.09
B	UPDATE KIT FOR BOTH SKIDTUBES AND COMPATIBILITY WITH DART CROSSTUBES	CP	02.03.04
A	NEW ISSUE	CP	99.05.03
REV.	DESCRIPTION	BY	DATE
DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN			
CHECKED		DRAWING NO.	REV. C
MFG. APPR.	N/A	D412-666	SHEET 1 OF 1
APPROVED		TITLE	SCALE
DE APPR.		412 GROSS WEIGHT TOWING KIT	1:4
DATE	07.08.10	COPYRIGHT © 1999 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

REFERENCE ONLY

Change Record

PAGE 1 OF 1

Part Number: D412-666-011Description: GROSS WEIGHT TOWING INSTALLATION[illegible]